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Applicants: Melissa D. Beebe, Heather L. Fenner, Kevin T. Jones
Assignee: Dell Products L.P.
Title: Automated Data Warehouse for Demand Fulfillment System
Serial No.: 09/847,244 Filing Date: May 1, 2001
Examiner: Elaine Gort Group Art Unit: 3627
Docket No.: DC-02828 Customer No.: 33438

Austin, Texas
May 8, 2006

Mail Stop Appeal Brief - Patents
Board of Patent Appeals and Interferences
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450

APPEAL BRIEF UNDER 37 CFR § 41.37

Dear Sir:

Applicant submits this Appeal Brief pursuant to the Notice of Appeal and Pre-Appeal Request for Review filed in this case on March 6, 2006. A Notice of Panel Decision from Pre-Appeal Brief Review was mailed on April 20, 2006 resetting the time period for filing an Appeal Brief to May 20, 2006.

A check is enclosed in the amount of \$500.00 for the Appeal Brief fee. The Board is also authorized to deduct any other amounts required for this appeal brief and to credit any amounts overpaid to Deposit Account. No. 502264.

I. REAL PARTY IN INTEREST - 37 CFR § 41.37(c)(1)(i)

The real party in interest is the assignee, Dell Products L.P., as named in the caption above and as evidenced by the assignment set forth at Reel 012091 Frame 0219.

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II. RELATED APPEALS AND INTERFERENCES - 37 CFR § 41.37(c)(1)(ii)

Based on information and belief, there are no appeals or interferences that could directly affect or be directly affected by or have a bearing on the decision by the Board of Patent Appeals and Interferences in the pending appeal.

III. STATUS OF CLAIMS - 37 CFR § 41.37(c)(1)(iii)

Claims 1 - 12 and 19 - 30 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Slotznick, U.S. Patent No. 5,983,200 (Slotznick) in view of Yamamoto et al., U.S. Patent No. 5,914,878 (Yamamoto) and Examiner's Official Notice. The rejection of claims 1 - 12 and 19 - 30 is appealed. Appendix "A" contains the full set of pending claims.

IV. STATUS OF AMENDMENTS - 37 CFR § 41.37(c)(1)(iv)

No amendments after final have been requested or entered.

V. SUMMARY OF CLAIMED SUBJECT MATTER - 37 CFR § 41.37(c)(1)(v)

The present invention, as set forth by independent claim 1, relates to a method for scheduling work and delivery of material for mass-producing items in a factory. The method includes obtaining at least one outstanding customer order (see e.g., step 410), determining a current state of an available inventory of at least one material from a plurality of material sources (see e.g., step 420), and periodically generating a work schedule and a material delivery schedule for producing the item using the at least one outstanding customer order and the current state of the available inventory (see e.g., step 440). Each outstanding customer of the at least one outstanding customer order includes an item ordered by a customer, and producing the item requires a required quantity of a required material. The periodically generating occurs at fixed time intervals (see e.g., Page 12, Lines 1 – 28 and Figure 2). The periodically generating occurs more than once during a manufacturing shift (see e.g., Page 12, Line 29 – Page 13, Line 10 and Figure 2). The determining the current state of the available inventory is performed such that the determining the current state of the available inventory is completed immediately prior to the generating the work schedule and the material delivery schedule (see e.g., Page 13, Lines 11 – 18 and Figure 2). The obtaining the at least one outstanding customer order is performed such that

the obtaining the customer order is completed immediately prior to the generating the work schedule and the material delivery schedule (see e.g., Page 12, lines 14 – 25 and figure 2).

The present invention, as set forth by new independent claim 19, relates to a method for scheduling work and delivery of material for mass-producing information handling systems in a factory which includes obtaining a plurality of customer orders (see e.g., step 410), determining a current state of an available inventory of at least one component from a plurality of component sources and periodically generating a work schedule and a material delivery schedule for producing the ordered information handling system using the customer order and the current state of the available inventory (see e.g., step 440). Each customer order of the plurality of customer orders includes an ordered information handling system. The customer order specifies components for the corresponding ordered information handling system. Producing the information handling system ordered by the customer requires a plurality of components (see e.g., Page 9, lines 11 – 18). At least one of the plurality of components varying from one ordered information handling system and another ordered information handling system based upon components specified by the customer order. Additionally, the determining the current state of the available inventory is performed such that the determining the current state of the available inventory is completed immediately prior to the generating the work schedule and the material delivery schedule. (see e.g., Page 13, lines 11 – 18 and Figure 2). The obtaining each of the plurality of customer orders is performed such that the obtaining the plurality of customer orders is completed immediately prior to the generating the work schedule and the material delivery schedule (see e.g., Page 12, lines 14 – 25 and Figure 2).

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL - 37 CFR § 41.37(c)(1)(vi)

Claims 1 - 12 and 19 - 30 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Slotznick, U.S. Patent No. 5,983,200 (Slotznick) in view of Yamamoto et al., U.S. Patent 5,914,878 (Yamamoto) and Examiner's Official Notice.

VII. ARGUMENT - 37 CFR § 41.37(c)(1)(vii)

Claims 1 - 12 are Allowable Over Slotznick in view of Yamamoto and Examiner's Official Notice.

The present invention generally relates to a method for scheduling work and delivery of material for mass-producing items in a factory. More specifically, the present invention generally relates to periodically generating a work schedule and a material deliver schedule for producing an item using an outstanding customer order and a current state of available inventory where the periodically generating occurs at fixed time intervals and occurs more than once during a manufacturing shift and where the determining the current state of available inventory is completed immediately prior to the generating of the work schedule and the material deliver schedule and where the obtaining an outstanding customer order is completed immediately prior to generating the work schedule and the material delivery schedule.

The specification sets forth

The phrase “[performing a function] immediately prior [to an event]” is used to describe performing a function at the last possible moment such that insufficient time remains to perform the function again before the event. This phrase is used to describe determining the current state of the available inventory and obtaining outstanding customer orders, and is intended to indicate that the inputs to generating the schedules are continuously updated so that they continuously reflect current supply and demand. With a current measure of supply and demand, work and material delivery schedules are accurate and efficient, minimizing excess inventory in the factory and producing items to fulfill customer demand as quickly and efficiently as possible. (Application, page 20, lines 7 – 15.)

Additionally, the specification sets forth

Another advantage of the invention is that it enables the factory to initiate more than one work schedule/build cycle and material delivery schedule during a given time period, such as during a manufacturing shift, without the need to maintain substantial in-house inventory of parts and/or raw materials. Manufacturing and delivery of materials are scheduled in response to customer demand rather than driven by a demand forecast or scheduled only at fixed intervals. More than one work schedule and material delivery schedule can be provided during a given time period because the automated data warehouse provides an almost immediate source of current supply and demand. (Application, page 21, lines 5 – 12.)

Slotznick discloses an intelligent agent that executes tasks by using intelligent agent learning modules which store information necessary to execute the tasks. A computer receives a command to execute a task or receives data which causes a task request to be generated. The computer accesses appropriate information in the learning modules to execute the task, and outputs instructions for output devices to execute the tasks. The tasks may be executed at a future time and on a periodic basis. The learning modules build up a database of information from previously executed tasks, and the database is used to assist in executing future tasks. The tasks include physical commercial transactions. Portions of the intelligent agent may be remotely located and interconnected via remote communication devices.

Yamamoto relates to a production system for retail goods such as beauty products and more particularly to a production system which receives sales information from retail outlets and manufactures goods based upon this sales information. The production system includes a retail sales information collecting means, a production quantity setting means for determining a production quantity according to the information so collected, a directing means for directing the preparation and production of raw materials according to the determined production quantity, and a production means for producing the determined production quantity according to a direction to produce. Yamamoto also discloses a raw material ordering system, which determines production quantities of raw materials in accordance with production plans for ensuring flexible production of the products without the disadvantage of carrying excessive inventories and for economical and efficient control and supply of raw materials.

When generally discussing claim 1, the examiner has set forth:

Slotznick discloses the claimed method for scheduling work for mass-producing items in a factory but is silent regarding determining current inventory and generating a material delivery schedule. Yamamoto et al discloses that it is known in the art to determine raw material ordering/delivery schedules based on current inventories and orders (see abstract) to prevent carrying excessive inventories while providing efficient control and supply of raw materials. It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the method for scheduling work of Slotznick with the inventory tracking and generation of a material delivery schedule as taught by Yamamoto et al., in order to prevent carrying excessive inventories while providing efficient control and supply of raw materials (Final Office Action, Page 3).

When discussing the preamble of scheduling work and delivery of material for mass-producing items in a factory, the examiner sets forth:

The following is provided for clarification purposes: A method for scheduling work and delivery of material for mass-producing items in a factory comprising (Slotznick discloses a method for scheduling work for mass-produced items such as flowers and gift items; see 166, 168 and 154 in figure 8 for scheduling work; Examiner has used Yamamoto et al. to teach the need for scheduling the delivery of material by means of a raw material ordering system which determines if required quantities for specific time periods)

Slotznick relates to a system which serves as an intelligent agent, expedites electronically placed orders, purchases, deliveries or production instructions for a variety of goods and services and carries out various delegated tasks. (Slotznick, Col. 3, lines 50 – 60.) Yamamoto relates to a production system for retail goods such a beauty products where the system receives sales information from retail outlets and manufactures the goods with flexibility. Neither Slotznick nor Yamamoto relate to scheduling work and delivery of material for mass-producing items in a factory.

When discussing the obtaining at least one outstanding customer order element, the Examiner sets forth:

Obtaining at least one outstanding customer order, wherein each outstanding customer of the at least one outstanding customer order includes an item ordered by a customer, and producing the item requires a required quantity of a required material (Slotznick [sic] for example, discloses an order placed for a flower arrangement which inherently requires a quantity or a required material, such as a dozen roses, see 166 in figure 8. (Final Office Action, Page 4).

When discussing the determining a current state of available inventory element, the Examiner sets forth:

Determining a current state of an available inventory of at least one material from a plurality of material sources (Yamamoto et al. discloses calculating inventory by adding one or more inventory sources together to get a total available inventory, for example as shown in figure 41) (Final Office Action Page 4).

The portion of Yamamoto to which the Examiner refers discloses obtaining information from a parts inventory data table where the information stored within the table is derived from a plurality of calculations. (See e.g., Yamamoto, Figures 34 and 41, Col. 22, Lines 21 – 32, and

Col. 23, Lines 30 – 60.) However, Yamamoto does not disclose determining a current state of an available inventory from a plurality of material sources.

When discussing the periodically generating a work schedule and a material delivery schedule element, the Examiner sets forth:

Periodically generating a work schedule and a material delivery schedule for producing the item using the at least one outstanding customer order and the current state of the available inventory (Slotznick discloses periodically during the day checking if any new orders have been entered that must be shipped today and if so shipping the order today. In producing that shipment the work schedule is generated to produce that shipment. Examiner has used Yamamoto et al. to teach that it is old and well known to use material delivery schedules to provide efficient control of needed raw materials.), wherein the periodically generating occurs at fixed time intervals (Examiner takes official notice that it is old and well known in the art of scheduling to use fixed time intervals to provide a systematic routine. For example, the florist may check the system every hour to ensure that they are quickly updated of any deliveries that need to go out that day.) The periodically generating occurs more than once during a manufacturing shift (Slotznick discloses "periodically during the day" which the Examiner construes to occur more than once during a manufacturing shift, figure 8) (Final Office Action Pages 4-5).

Slotznick discloses examining a database periodically, at scheduled times during the day, for new orders that must be shipped immediately (step 166). (See e.g., Slotznick, Col. 21, lines 42 – 48.) This disclosure in Slotznick would relate to the obtaining a customer order element of the present invention rather than the periodically generating a work schedule element. Using material delivery schedules to provide efficient control of needed raw materials, as the Examiner maintains is disclosed by Yamamoto, does not suggest periodically generating a work schedule and a material delivery schedule where the periodically generating occurs at fixed time intervals and occurs more than once during a manufacturing shift. Nor is this limitation disclosed merely by the Examiner taking official notice that it is well known "to use fixed time intervals to provide a systematic routine." Thus, neither Slotznick nor Yamamoto discloses periodically generating a work schedule and a material delivery schedule where the periodically generating occurs at fixed time intervals and occurs more than once during a manufacturing shift.

When discussing the determining a current state of available inventory immediately prior limitation, the Examiner sets forth:

The determining the current state of the available inventory is performed such that the determining the current state of the available inventory is completed immediately prior to the generating the work schedule and the material delivery schedule (Yamamoto et al. discloses the use of inventory data in determining order quantities and for setting daily production plans, abstract) (Final Office Action Page 5).

Even if Yamamoto discloses the use of inventory data in determining order quantities and for setting daily production plans, Yamamoto does not disclose or suggest determining the current state of the available inventory *immediately prior* to generating the work schedule as claimed and discussed within the present application.

When discussing the completing the obtaining the customer order immediately prior to generating the work schedule, the Examiner sets forth:

The obtaining the at least one outstanding customer order is performed such that the obtaining the customer order is completed immediately prior to the generating the work schedule and the material delivery schedule (In Slotznick the customer order is obtained by the florist immediately prior to the generation of the work schedule in order to ship the order, figure 8) (Final Office Action Page 5).

In Slotznick, when an order is obtained, e.g., via step 166, then the next step after verifying payment via step 152 is dispensing or shipping the order at step 154. There is no need to generate a work schedule and a material delivery schedule based upon the order which is obtained immediately prior to the periodically generating a work schedule and a material delivery schedule as claimed and discussed within the present application. Note that in the present application the work schedule is for producing the item and the delivery schedule is for delivering material from a material source so that the material may be used for producing the item during the work schedule.

Accordingly, Slotznick and Yamamoto, taken alone or in combination, do not teach or suggest a method for scheduling work and delivery of material for mass-producing items in a factory where such a method includes obtaining at least one outstanding customer order, *determining a current state of an available inventory of at least one material from a plurality of material sources*, and *periodically generating a work schedule and a material delivery schedule for producing the item using the at least one outstanding customer order and the current state of the available inventory*. Much less such a method in which each outstanding customer order of the at least one outstanding customer order includes an item ordered by a customer, and

producing the item requires a required quantity of a required material, *the periodically generating occurs at fixed time intervals, the periodically generating occurs more than once during a manufacturing shift*, the determining the current state of the available inventory is performed such that the *determining the current state of the available inventory is completed immediately prior to the generating the work schedule and the material delivery schedule*, and the obtaining the at least one outstanding customer order is performed such that the obtaining the customer order is completed *immediately prior to the generating the work schedule and the material delivery schedule*, all as required by independent claim 1. Claims 2 – 11 depend from claim 1 and are allowable for at least this reason.

Claims 19 - 30 are Allowable Over Slotznick in view of Yamamoto and Examiner's Official Notice.

The invention is generally discussed above.

When generally discussing claim 19, the examiner has set forth:

(Regarding claim 19) A method for scheduling work and delivery of material for mass-producing information handling systems in a factory comprising (Slotznick discloses a method for scheduling work for mass-produced items such as flowers and gift items; see 166, 168 and 154 in figure 8 for scheduling work; Examiner has used Yamamoto et al. to teach the need for scheduling the delivery of material by means of a raw material ordering system which determines required quantities for specific time periods. Regarding the use of the system for producing information handling systems the Slotznick method would be “capable” of scheduling work and delivery of information handling systems in a factory. It would be obvious for one of ordinary skill in the art of manufacturing to use the system of Slotznick for scheduling work for information handling systems in order to provide customers the ability to order and to efficiently schedule the manufacturing of information handling systems) (Final Office action dated December 5, 2005, Page 10.)

Slotznick relates a system which serves as an intelligent agent, expedites electronically placed orders, purchases, deliveries or production instructions for a variety of goods and services and carries out various delegated tasks. (Slotznick, Col. 3, lines 50 – 60.) Yamamoto relates to a production system for retail goods such a beauty products where the system receives sales information from retail outlets and manufactures the goods with flexibility. Neither Slotznick nor Yamamoto relate to scheduling work and delivery of material for mass-producing information handling systems in a factory. Applicants respectfully disagree that a system such as

the system disclosed by Slotznick would be “capable” of scheduling work and delivery of systems which are as complex to manufacture and have as many pieces for which a material delivery schedule is needed as information handling systems.

When discussing the obtaining a plurality of customer orders element of claim 19, the Examiner has set forth

Just as Slotznick discloses customer specifying components for gifts such as what type of flowers, vase, card, etc...customer's would for example specify components to their computer, producing the information handling system ordered by the customer requiring a plurality of components, and at least one of the plurality of components varying from one ordered information handling system and another ordered information handling system based upon components specified by the customer (The systems would be produced in accordance to the customer's selection which would vary based upon what components they selected). (Final Office action dated December 5, 2005, Page 11.)

When discussing the determining a current state of an available inventory element of claim 19, the Examiner has set forth:

Yamamoto et al discloses calculating inventory by adding one or more inventory sources together to get a total available inventory, for example as shown in figure 41. Periodically generating a work schedule and a material delivery schedule for producing the ordered information handling system using the customer order and the current state of the available inventory. (Final Office action dated December 5, 2005, page 11.)

The portion of Yamamoto to which the Examiner refers discloses obtaining information from a parts inventory data table where the information stored within the table is derived from a plurality of calculations. (See e.g., Yamamoto, Figures 34 and 41, Col. 22, Lines 21 – 32, and Col. 23, Lines 30 – 60.) However, Yamamoto does not disclose determining a current state of an available inventory from a plurality of material sources.

When discussing the periodically generating a work schedule element, the Examiner has set forth:

Slotznick discloses periodically during the day checking if any new orders have been entered that must be shipped today and if so shipping the order today. In producing that shipment, the work schedule is generated to produce that shipment. Examiner has uses Yamamoto et al. to teach that it is old and well know to use material delivery schedules to provide efficient control of needed raw materials. The determining the current state of the available inventory is performed such that the determining the current state of the

available inventory is completed immediately prior to the generating the work schedule and the material delivery schedule. (Final Office action dated December 5, 2005, Page 11.)

Slotznik discloses examining a database periodically, at scheduled times during the day, for new orders that must be shipped immediately (step 166). (See e.g., Slotznik, Col. 21, lines 42 – 48.) This disclosure in Slotznik would relate to the obtaining a customer order element of the present invention rather than the periodically generating a work schedule element. Using material delivery schedules to provide efficient control of needed raw materials, as the Examiner maintains is disclosed by Yamamoto, does not suggest periodically generating a work schedule and a material delivery schedule where the periodically generating occurs at fixed time intervals and occurs more than once during a manufacturing shift. Nor is this limitation disclosed merely by the Examiner taking official notice that it is well known “to use fixed time intervals to provide a systematic routine.” Thus, neither Slotznik nor Yamamoto discloses periodically generating a work schedule and a material delivery schedule where the periodically generating occurs at fixed time intervals and occurs more than once during a manufacturing shift.

When discussing the determining the current state of the available inventory is completed immediately prior to the generating the work schedule, the Examiner has set forth:

Yamamoto et al. discloses the use of inventory data in determining order quantities and for setting daily production plans. The obtaining each of the plurality of customer orders is performed such that the obtaining the plurality of customer orders is completed immediately prior to the generating the work schedule and the material delivery schedule. In Slotznick the customer order is obtained by the florist immediately prior to the generation of the work schedule in order to ship the order, figure 8. Examiner has used Yamamoto et al. to disclose the use of determining raw material needs and ordering that is based on existing inventory and orders (Final Office action dated December 5, 2005, Page 12.)

Even if Yamamoto discloses the user of inventory data in determining order quantities and for setting daily production plans, Yamamoto does not disclose or suggest determining the current state of the available inventory *immediately prior* to the generating the work schedule as claimed and discussed within the present application.

When discussing the obtaining each of the plurality of customer orders being completed immediately prior to the generating the work schedule, the Examiner has set forth:

In Slotznick the customer order is obtained by the florist immediately prior to the generation of the work schedule in order to ship the order, figure 8. Examiner has used Yamamoto et al. to disclose the use of determining raw material needs and ordering that is based on existing inventory and orders. (Final Office action dated December 5, 2005, Page 12.)

In Slotznick, when an order is obtained, e.g., via step 166, then the next step after verifying payment via step 152 is dispensing or shipping the order at step 154. There is no need to generate a work schedule and a material delivery schedule based upon the order which is obtained immediately prior to the periodically generating a work schedule and a material delivery schedule as claimed and discussed within the present application. Note that in the present application the work schedule is for producing the item and the delivery schedule is for delivering material from a material source so that the material may be used for producing the item during the work schedule.

Accordingly, Slotznick and Yamamoto, taken alone or in combination, do not disclose or suggest a method for scheduling work and delivery of material for mass-producing *information handling systems* in a factory which includes obtaining a plurality of customer orders, determining a current state of an available inventory of at least one component from a plurality of component sources and *periodically generating a work schedule and a material delivery schedule for producing the ordered information handling system using the customer order and the current state of the available inventory*. Much less such a method in which *each* customer order of the plurality of customer orders includes *an ordered information handling system*; the customer order specifies components for the corresponding ordered information handling system; producing the information handling system ordered by the customer requires a plurality of components; and, *at least one of the plurality of components varying from one ordered information handling system and another ordered information handling system based upon components specified by the customer order*. Much less such a system in which the determining the current state of the available inventory is performed such that the determining the current state of the available inventory is completed immediately prior to the generating the work schedule and the material delivery schedule; and the obtaining each of the plurality of customer orders is performed such that the obtaining the plurality of customer orders is completed immediately prior to the generating the work schedule and the material delivery schedule. All as

required by new independent claim 19. Claims 20 – 30 depend from new claim 19 and are allowable for at least this reason.

Claims 2 – 12 and 20 - 30 are Allowable Over Slotznick in view of Yamamoto and Examiner's Official Notice.

The invention is generally discussed above.

When discussing claims 2 and 20, the examiner set forth:

(Regarding claims 2 and 20) wherein the at least one outstanding customer order and the current state of the available inventory are posted continuously for the generating the work schedule and the material delivery schedule. Customer orders are entered into the system and thus are "posted" continuously. Examiner takes Official Notice that automated inventory tracking systems are notoriously old and well known in the art of inventory systems in order to efficiently track inventory, therefore the use of an automated inventory tracking system would have been obvious at the time of the invention to provide efficient tracking of inventory.) (Final Office Action, Pages 5 – 6.)

Whether or not “automated inventory tracking systems” are “notoriously old and well known”, such an automated inventory tracking system does not disclose or suggest at least one outstanding customer order and the current state of available inventory being posted continuously for the generating of the work schedule and the material delivery schedule. Accordingly, Slotznick, Yamamoto and Examiner's Office Notice do not disclose or suggest a method as claimed where the at least one outstanding customer order and the current state of the available inventory are posted continuously for the generating the work schedule and the material delivery schedule, as required by claims 2 and 20.

When discussing claims 3 and 21, the examiner set forth:

(Regarding claims 3 and 21) wherein the at least one outstanding customer order and the current state of the available inventory are posted continuously to an automated data warehouse (Customer orders are entered and saved into the system and thus are “posted” continuously to an automated data warehouse. Examiner takes Official Notice that automated inventory tracking systems are notoriously old and well known in the art of inventory systems in order to efficiently track inventory, therefore the use of an automated inventory tracking system would have been obvious at the time of the invention to provide efficient tracking of inventory. The storage of this inventory data would be saved in a database that would be an “automated data warehouse”.) (Final Office Action, Page 6.)

Whether or not “automated inventory tracking systems” are “notoriously old and well known”, such an automated inventory tracking system does not disclose or suggest at least one outstanding customer order and the current state of the available inventory are posted continuously to an automated data warehouse. Accordingly, Slotznick, Yamamoto and Examiner’s Official Notice do not disclose or suggest a method as claimed where at least one outstanding customer order and the current state of the available inventory are posted continuously to an automated data warehouse, as required by claims 3 and 21.

When discussing claims 4 and 22, the examiner set forth:

(Regarding claims 4 and 22) wherein the determining the current state of the available inventory includes determining for each material of the at least one material of the available inventory: a material source of the plurality of material sources from which the material can be obtained, where the material source is updated continuously (Yamamoto et al. disclosed manufacturers of raw material in figure 27 for the purpose of obtaining additional raw materials); an available quantity of the available material at the material source, wherein the available quantity is updated continuously (Examiner take official notice that it is notoriously old and well known in the art of manufacturing to obtain inventory levels of suppliers in order to ensure adequate supply of material for production, therefore it would have been obvious to one of ordinary skill at the time of the invention to provide the method, as modified above, with supplier inventory tracking means to ensure adequate supply of material for production.); an available time of the available quantity of the material at the material source to each operation of at least one operation of each manufacturing line of at least one manufacturing lone of the factory, wherein the availability time is updated continuously (Yamamoto et al. discloses that it is old and well known to track standard lead times for raw materials from suppliers in figure 27 in order to know how long it will take to obtain the necessary materials, therefore it would have been obvious to one of ordinary skill at the time of the invention to provide the method, as modified above, with lead times to ensure timely supply of materials for production.) (Final Office Action, Pages 6 - 7)

Whether or not it is well known to obtain inventory levels of suppliers, Slotznick, Yamamoto and Examiner’s Official Notice do not disclose or suggest a method as claimed where the determining the current state of the available inventory includes determining for each material of the at least one material of the available inventory: a material source of the plurality of material sources from which the material can be obtained, where the material source is updated continuously, an available quantity of the available material at the material source, where the available quantity is updated continuously, and an availability time of the available quantity of the material at the material source to each operation of at least one operation of each

manufacturing line of at least one manufacturing line of the factory, where the availability time is updated continuously, all as required by claims 4 and 22.

When discussing claims 5 and 23, the examiner set forth:

(Regarding claims 5 and 23) wherein the obtaining the at least one outstanding customer order includes using a status for each customer order of at least one customer order, wherein the status for each customer order is updated continuously; and the status for each outstanding customer order corresponds to an outstanding status (Slotznick discloses orders having delivery dates and as being occasional or periodic, see figure 8 reference 156) (Final Office Action, Page 7.)

Slotznick, Yamamoto and Examiner's Official Notice do not disclose or suggest that a method as claimed where the obtaining at least one outstanding customer order includes using a status for each customer order of at least one customer order, where the status for each customer order is updated continuously, and the status for each outstanding customer order corresponds to an outstanding status, as required by claims 5 and 23.

When discussing claims 6 and 24, the examiner set forth:

(Regarding claims 6 and 24) wherein the available inventory comprises external inventory (Examiner take official notice that it is notoriously old and well know in the art of manufacturing to obtain inventory levels of suppliers in order to ensure adequate supply of material for production, therefore it would have been obvious to one of ordinary skill at the time of the invention to provide the method, as modified above, with supplier inventory tracking means to ensure adequate supply of material for production.) (Final Office Action, Page 8.)

Whether or not it is well known in the art to obtain inventory levels of suppliers, Slotznick, Yamamoto and Examiner's Official Notice do not disclose or suggest a method as claimed where the available inventory comprises external inventory, as required by claims 6 and 24.

When discussing claims 7 and 25, the examiner set forth:

(Regarding claims 7 and 25) wherein the available inventory comprises work-in- progress inventory (Examiner takes Official Notice that in a typical operation inventory is held in three different forms: as raw material (includes suppliers and inventory in transit), work-in-process (semi completed goods) and finished goods inventories. Therefore it would have been obvious to one of ordinary skill at the time of the invention to provide the

method, as modified above, with the tracking of work-in-progress inventory to track available inventory throughout the production process.) (Final Office Action, Page 8.)

Whether or not it is well known in the art to obtain inventory levels of suppliers, Slotznick, Yamamoto and Examiner's Official Notice do not disclose or suggest a method as claimed where the available inventory comprises work-in-progress inventory, as required by claims 7 and 25.

When discussing claims 8 and 26, the examiner set forth:

(Regarding claims 8 and 26) wherein the available inventory comprises in-transit inventory (Examiner takes Official Notice that in a typical operation inventory is held in three different forms: as raw material (includes from suppliers and inventory in transit), work-in-process (semi completed goods) and finished goods inventories. Therefore it would have been obvious to one of ordinary skill at the time of the invention to provide the method, as modified above, with the tracking of in-transit inventory to track available inventory) (Final Office Action, Page 8.)

Whether or not it is well known that inventory is held in three different forms, Slotznick, Yamamoto and Examiner's Official Notice do not disclose or suggest a method as claimed where the available inventory comprises in-transit inventory, as required by claims 8 and 26.

When discussing claims 9 and 27, the examiner set forth:

(Regarding claims 9 and 27) wherein the available inventory comprises in-house inventory (Examiner takes Official Notice that in a typical operation inventory is held in three different forms: as raw material (includes from suppliers and inventory in transit), work-in-process (semi completed goods) and finished goods inventories. Therefore it would have been obvious to one of ordinary skill at the time of the invention to provide the method, as modified above, with the tracking of in-house inventory (such as in-house raw material, work-in-process and finished goods) to track available inventory.) (Final Office Action, Pages 8 – 9.)

Whether or not it is well known that inventory is held in three different forms, Slotznick, Yamamoto and Examiner's Official Notice do not disclose or suggest a method as claimed the available inventory comprises in-house inventory, as required by claims 9 and 27.

When discussing claims 10 and 28, the examiner set forth:

(Regarding claims 10 and 28) wherein the periodically generating the work schedule and the material schedule includes generating the work schedule and the material delivery

schedule every two hours (Examiner takes official notice that it is old and well known in the art of scheduling to use fixed time intervals to provide a systematic routine. For example, the florist may check the system every two hours to ensure that they are quickly updated of any deliveries that need to go out that day. Therefore it would have been obvious to one of ordinary skill in the art to check the system in a two hour interval in order to update the work schedule in a systematic way to keep current.) (Final Office Action, Page 9.)

Whether or not it is well known to use fixed time intervals to provide a systematic routine, Slotznick, Yamamoto and Examiner's Official Notice do not disclose or suggest a method as claimed where the periodically generated work schedule and material schedule include generating the work schedule and the material delivery schedule every two hours, as required by claims 10 and 28.

When discussing claims 11 and 29, the examiner set forth:

(Regarding claims 11 and 29) wherein the manufacturing shift comprises a number of hours less than or equal to eight; and the periodically generating the work schedule and the material schedule includes generating the work schedule and the material delivery schedule a plurality of times during the manufacturing shift (Slotznick discloses periodically checking during the day which the Examiner construes to be a manufacturing shift which is "a number of hours less than or equal to eight".) (Final Office Action, Page 9.)

Slotznick, Yamamoto and Examiner's Official Notice do not disclose or suggest a method as claimed where the manufacturing shift comprises a number of hours less than or equal to eight and the periodically generated work schedule and the material schedule include generating the work schedule and the material delivery schedule a plurality of times during the manufacturing shift, as required by claims 11 and 29.

When discussing claims 12 and 30, the examiner set forth:

(Regarding claims 12 and 30) wherein the plurality of material sources comprises an external material source, the external material source providing an external inventory of a first material of the at least one material of the available inventory; and the determining the available inventory of the material includes using an external visibility interface module to determine the available inventory of the first material in the external inventory (Examiner takes official notice that it is notoriously old and well known in the art of manufacturing to obtain inventory levels of suppliers via a networked system in order to ensure adequate supply of material for production, therefore it would have been obvious to one of ordinary skill at the time of the invention to provide the method, as modified

above, with automated supplier inventory tracking means to ensure an adequate supply of material for production.) (Final Office Action, Pages 9 – 10.)

Whether or not is known to obtain inventory levels from suppliers, Slotznick, Yamamoto and Examiner's Official Notice do not disclose or suggest a method as claimed where the plurality of material sources comprise an external material source which provides an external inventory of a first material of the at least one material of the available inventory and determines the available inventory of the material which includes using an external visibility interface module to determine the available inventory of the first material in the external inventory, as required by claims 12 and 30.

VIII. CLAIMS APPENDIX - 37 CFR § 41.37(c)(1)(viii)

A copy of the pending claims involved in the appeal is attached as Appendix A.

IX. EVIDENCE APPENDIX - 37 CFR § 41.37(c)(1)(ix)

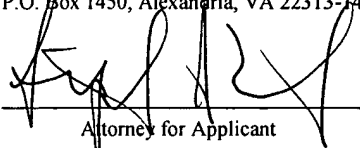
None

X. RELATED PROCEEDINGS APPENDIX - 37 CFR § 41.37(c)(1)(x)

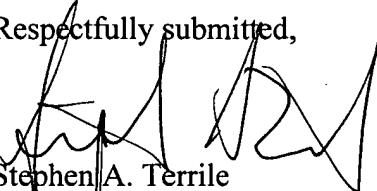
There are no related proceedings.

XI. CONCLUSION

For the reasons set forth above, Applicant respectfully submits that the rejection of pending Claims 1 - 12 and 19 - 30 is unfounded, and requests that the rejection of claims 1 - 12 and 19 - 30 be reversed.

I hereby certify that this correspondence is being deposited with the United States Postal Service as First Class Mail in an envelope addressed to: Mail Stop Appeal Brief – Patents, Board of Patent Appeals and Interferences, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450, on May 8, 2006.	
 Attorney for Applicant	<u>5/8/06</u> Date of Signature

Respectfully submitted,


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CLAIMS APPENDIX A - 37 CFR § 41.37(c)(1)(viii)

1. A method for scheduling work and delivery of material for mass-producing items in a factory comprising:
obtaining at least one outstanding customer order, wherein each outstanding customer of the at least one outstanding customer order includes an item ordered by a customer, and
producing the item requires a required quantity of a required material;
determining a current state of an available inventory of at least one material from a plurality of material sources; and
periodically generating a work schedule and a material delivery schedule for producing the item using the at least one outstanding customer order and the current state of the available inventory, wherein
the periodically generating occurs at fixed time intervals;
the periodically generating occurs more than once during a manufacturing shift;
the determining the current state of the available inventory is performed such that the
determining the current state of the available inventory is completed immediately prior to the generating the work schedule and the material delivery schedule; and
the obtaining the at least one outstanding customer order is performed such that the
obtaining the customer order is completed immediately prior to the generating the work schedule and the material delivery schedule.
2. The method of claim 1 wherein
the at least one outstanding customer order and the current state of the available inventory are posted continuously for the generating the work schedule and the material delivery schedule.
3. The method of claim 1 wherein
the at least one outstanding customer order and the current state of the available inventory are posted continuously to an automated data warehouse.

4. The method of claim 1 wherein the determining the current state of the available inventory includes determining for each material of the at least one material of the available inventory:

a material source of the plurality of material sources from which the material can be obtained,

wherein the material source is updated continuously;

an available quantity of the available material at the material source, wherein the available quantity is updated continuously; and

an availability time of the available quantity of the material at the material source to each operation of at least one operation of each manufacturing line of at least one manufacturing line of the factory, wherein the availability time is updated continuously.

5. The method of claim 1 wherein the obtaining the at least one outstanding customer order includes using a status for each customer order of at least one customer order, wherein the status for each customer order is updated continuously; and

the status for each outstanding customer order corresponds to an outstanding status.

6. The method of claim 1 wherein the available inventory comprises external inventory.

7. The method of claim 1 wherein the available inventory comprises work-in-progress inventory.

8. The method of claim 1 wherein the available inventory comprises in-transit inventory.

9. The method of claim 1 wherein the available inventory comprises in-house inventory.

10. The method of claim 1 wherein the periodically generating the work schedule and the material schedule includes generating the work schedule and the material delivery schedule every two hours.

11. The method of claim 1 wherein

the manufacturing shift comprises a number of hours less than or equal to eight; and
the periodically generating the work schedule and the material schedule includes generating the
work schedule and the material delivery schedule a plurality of times during the
manufacturing shift.

12. The method of claim 1 wherein
the plurality of material sources comprises an external material source, the external material
source providing an external inventory of a first material of the at least one material of
the available inventory; and
the determining the available inventory of the material includes using an external
visibility interface module to determine the available inventory of the first
material in the external inventory.

19. A method for scheduling work and delivery of material for mass-producing
information handling systems in a factory comprising:
obtaining a plurality of customer orders, each customer order of the plurality of customer orders
including an ordered information handling system, each customer order specifying
components for a corresponding ordered information handling system, producing the
information handling system ordered by the customer requiring a plurality of
components, and at least one of the plurality of components varying from one ordered
information handling system and another ordered information handling system based
upon components specified by the customer order;
determining a current state of an available inventory of at least one component from a plurality
of component sources; and
periodically generating a work schedule and a material delivery schedule for producing the
ordered information handling system using the customer order and the current state of the
available inventory, wherein
the determining the current state of the available inventory is performed such that the
determining the current state of the available inventory is completed immediately
prior to the generating the work schedule and the material delivery schedule; and
the obtaining each of the plurality of customer orders is performed such that the obtaining
the plurality of customer orders is completed immediately prior to the generating

the work schedule and the material delivery schedule.

20. The method of claim 19 wherein the customer order and the current state of the available inventory are posted continuously for the generating the work schedule and the material delivery schedule.

21. The method of claim 19 wherein the customer order and the current state of the available inventory are posted continuously to an automated data warehouse.

22. The method of claim 19 wherein the determining the current state of the available inventory includes determining a current state of the available inventory for each component of the plurality of components; a component source of the plurality of component sources from which the component can be obtained, wherein the component source is updated continuously; an available quantity of the available component at the component source, wherein the available quantity is updated continuously; and an availability time of the available quantity of the component at the component source to each operation of at least one operation of each manufacturing line of at least one manufacturing line of the factory, wherein the availability time is updated continuously.

23. The method of claim 19 wherein the obtaining the customer order includes using a status for each customer order, wherein the status for each customer order is updated continuously; and the status for each customer order corresponds to an outstanding status.

24. The method of claim 19 wherein the available inventory comprises external inventory.

25. The method of claim 19 wherein the available inventory comprises work-in-progress inventory.

26. The method of claim 19 wherein

the available inventory comprises in-transit inventory.

27. The method of claim 19 wherein
the available inventory comprises in-house inventory.

28. The method of claim 19 wherein
the periodically generating the work schedule and the material schedule includes generating the
work schedule and the material delivery schedule every two hours.

29. The method of claim 19 wherein
a manufacturing shift comprises a number of hours less than or equal to eight; and
the periodically generating the work schedule and the material schedule includes generating the
work schedule and the material delivery schedule a plurality of times during the
manufacturing shift.

30. The method of claim 19 wherein
the plurality of component sources comprises an external component source, the external
component source providing an external inventory of a first component; and
the determining the available inventory of the component includes using an external
visibility interface module to determine the available inventory of the first
component in the external inventory.

EVIDENCE APPENDIX B - 37 CFR § 41.37(c)(1)(ix)

None

RELATED PROCEEDINGS APPENDIX C - 37 CFR § 41.37(c)(1)(x)

There are no related proceedings.